

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Ch

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/700,494 11/16/00 ICHIHARA

K P06939US00/L

000881
LARSON & TAYLOR, PLC
1199 NORTH FAIRFAX STREET
SUITE 900
ALEXANDRIA VA 22314

HM12/0620

EXAMINER

FORDHAR, F

ART UNIT

PAPER NUMBER

1623

DATE MAILED:

06/20/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/700,494

Applicant(s)

ICHIHARA ET AL.

Examiner

farhad

forohar

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

Objection to Specification

1. The specification is objected to because the term "per time" in specification (Page 9, line13) needs to specify the exact unit of time.

Claim Rejections - 35 USC § 103

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 6 has been renumbered 5.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1623

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berry et al (US 2,559,629) as applied to claims 1-5 above, and further in view of Japan Energy Corp. (JP 5-78277).

Berry et al teaches synthesis of the fluoroalkylcarboxylic acid, $\text{H}(\text{CF}_2)_8\text{COOH}$, from reaction of the corresponding fluoroalkyl alcohol, $\text{H}(\text{CF}_2)_8\text{CH}_2\text{OH}$ with nitric acid and dinitrogen tetroxide, N_2O_4 . The reaction vessel is initially exposed to open air and then sealed and heated (US 2,559,629 Col. 6:61-75 and Col. 7: 1-8). Berry et al does not mention the use of metal catalysts and does not indicate that oxygen takes part in the reaction.

The work of Japan Energy Corp. (JP 5-78277), on the other hand, discloses synthesis of 3,3,3-trifluorolactic acid (a fluoroalkylcarboxylic acid) by oxidation of 3,3,3-trifluoropropane-1, 2-diol (a fluoroalkyl alcohol) with nitric acid in the presence of copper. Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made that when a reaction is exposed to air, such as in case of the Berry et al, it is inherently exposed to oxygen gas that exists in air, and the work of Japan Energy Corp. (JP 5-78277) teaches that a metal catalyst such as copper can also be used in oxidation of fluoroalkyl alcohols. Therefore, the use of inexpensive oxygen (alone or with a copper catalyst) in nitric acid oxidation of fluoroalkyl alcohols is anticipated.

The application of fluorocarboxylic acids in the beginning of the reaction, as mentioned in claim 4, is also anticipated because the oxidation is preferably carried out in acidic media, Berry et al (US 2,559,629 Col. 4:2-6).

As the applicant indicates (pg. 3:4-9) it is known that in hydrocarbon oxidation using nitric acid, the introduction of oxygen reduces the required amount of nitric acid to a stoichiometric amount or less relative to the reaction substrate. Applying the same technique to halogenated hydrocarbons, as used in claim 5, is a logical extension of the same principle and is anticipated.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhad Forohar. The examiner can normally be reached on Monday-Friday between the hours of 8:00 a.m. and 5:00 p.m. at (703) 305-1022.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Geist, SPE of Art Unit 1623, may be reached at (703) 308-1701. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4426.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4556.

For 24 hour access to patent application information 7 days a week, or for filing applications electronically, please visit our website at www.uspto.gov and click on the button "Patent Electronic Business Center" for more information.



GARY GEIST
SUPERVISORY PATENT EXAMINER
TECH CENTER 1600

Farhad Forohar
Examiner